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ABSTRACT OF THE DISCLOSURE

Various methods of fabricating halo regions are disclosed. In one aspect, a method of manufacturing is provided that includes forming a symmetric transistor and an asymmetric transistor on a substrate. A first mask is formed on the substrate with a first opening to enable implantation formation of first and second halo regions proximate first and second source/drain regions of the symmetric transistor. First and second halo regions of a first dosage are formed beneath the first gate by implanting off-axis through the first opening. A second mask is formed on the substrate with a second opening to enable implantation formation of a third halo region proximate a source region of the second asymmetric transistor while preventing formation of a halo region proximate a drain region of the asymmetric transistor. A third halo region of a second dosage greater than the first dosage is formed by implanting off-axis through the second opening.